Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-14 (canceled)

Claim 15 (currently amended) A method for assembling sequence reads, comprising the steps of:

    a) providing a plurality of sequence reads into a computer;

    b) categorizing within the computer the plurality of sequence reads into at least two sub-groups of sequence reads based on an identifiable characteristic of the sequence reads in each sub-group;

    c) matching within the computer sequence reads within each sub-group thereby creating assemblies of said sequence reads within each respective sub-group;

    d) repeating steps b) and c) with all unassembled sequence reads and newly created assemblies; and

    e) providing an assembled sequence to a user.

Claim 16 (original) A method as set forth in claim 15, wherein said categorizing step includes identifying sequence reads having similar sizes.

Claims 17-24 (withdrawn)

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Claim 25 (previously presented) A method as set forth in claim 15, wherein said categorizing step includes identifying sequence reads having at least one of the following similar identifiable characteristics: sizes, entropies, GC (guanine cytosine) percentages, longest repeats, natures of regions of high entropy, natures of regions of low entropy, and compression ratios.

Claim 26 (previously presented) A method as set forth in claim 25, further comprising a step that comprises repeating steps b) and c) with an identifiable characteristic different from the identifiable characteristic used in step b).

Claim 27 (previously presented) A method as set forth in claim 15, wherein matching step comprises using PHRAP (phragment assembly program).